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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,880	03/19/2004	Kazuhiko Oda	119168	7150
25944	7590	02/08/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER VIJAYAKUMAR, KALLAMBELLA M	
			ART UNIT	PAPER NUMBER
			1751	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/08/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/803,880

Applicant(s)

ODA ET AL.

Examiner

Kallambella Vijayakumar

Art Unit

1751

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1,4,6,8,10,12,14,16 and 18-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3, 5, 7, 9 and 17 is/are rejected.
- 7) ☒ Claim(s) 11,13 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Detailed Action***

- Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
- Claims 1-21 are currently pending with the application. Applicant's election with traverse of Group-II, Claims 2-3, 5, 7, 9, 11, 13, 15 and 17 in reply filed 11/13/2006 is acknowledged. The traversal is on the ground that groups I and II have similar effects is not persuasive because the search required for Gp-II is not required for Gp-I and they are patentably distinct having distinctly different limitations (Response, Pg-1, Para-2). With regard to the argument that Groups II and III are not mutually exclusive, applicants fail to show that the intermediate product as claimed has no other uses than claimed products (Response, Pg-2, Para-1). The different Inventions as claimed are patentably distinct for the reasons set forth in the office action mailed 10/11/2006 and search required Gp-II is not required for the other groups. The requirement is still deemed proper and is therefore made FINAL. Claims 1, 4, 6, 8, 10, 12, 14, 16, and 18-21 are withdrawn from further consideration.
- The examiner has considered the IDS filed 5/5/2004 and 1/24/2006.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "relatively different direction" in the claim 2 is a relative term which renders the claim indefinite. The term "relatively different direction" is not defined by the claims, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. If ten parameters make a 'different direction" how many parameters need to be met to make it "relatively different direction."

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

1. Claims 2, 5, 7, 9 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sasaki et al (US 6,368,378).

Sasaki et al teach a method of forming a dispersion by mixing Silver powder with a particle size of about 10 microns with silica sol containing 10 nm silica particles (ceramic) in a wet type dispersing machine (CI-7, Ln 28-35).

Art Unit: 1751

The wetting of the metal and ceramic particles by the slurry medium will be obvious. The composition contains conductive metal particles of Ag and the claimed conductivity will be obvious over the electrical conductivity of metallic Ag.

The prior art fails to teach wetting undried metal particles having been water washed metal particles or two slurry streams colliding along relatively different directions.

However, the prior art teaches forming a slurry containing Ag and SiO<sub>2</sub> particles, and the examiner asserts that the treatment of the prior art metal particles will be substantially same as applicants wetting of undried metal particles. The omission of drying the wet metal particles in the instant claimed process step will be prima facie obvious over the particles used by the prior art in the slurry, because Omission of an Element/step and Its Function Is Obvious If the Function of the Element Is Not Desired Ex parte Wu , 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) <MPEP 2144.04>. With regard to the two streams colliding in a relatively different directions, the perturbation of the slurry in a mixer will generate multiple inter-layers of churning slurry due to the mixing by a blade and gravitational forces leading to collision of particles between inter-layers and the wall of the container deflecting the slurry that will meet the limitation of second slurry colliding along a relatively different direction from the first slurry.

The near same composition of the inter layers of the slurry will meet the limitation of claim-3.

With regard to claims-5, 7 and 9, the prior art teaches Ag particles with about 10 micron size and silica particles with 10 nm size.

With regard to claim-17, the prior art teaches forming a conductive paste using the composition (Title, Abstract).

2. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Serafin et al (US 5,852,076).

Serafin et al teach a method of making magnetic dispersions and other dispersions of hard, non-compliant particles such as magnetic pigments such as iron oxides (ceramic), metal particles and color pigment particles, wherein the process stream is split in to two or more streams and recombined after passing through restrictive orifices configured for the streams to impinge on each other at high velocities

Art Unit: 1751

(Abstract, Fig-2, CI-3, Ln 23-30). The claimed conductivity will be obvious over the electrical conductivity of magnetic metals such as Fe, Co and Ni and their alloys.

The prior art fails to teach wetting undried metal particles having been water washed metal particles.

However, the prior art teaches forming a slurry and splitting the streams to impinge on each other, and the examiner asserts that the treatment of the prior art metal particles will be substantially same as applicants wetting of undried metal particles. The omission of drying the wet metal particles in the instant claimed process step will be prima facie obvious over the particles used by the prior art in the slurry, because Omission of an Element/step and Its Function Is Obvious If the Function of the Element Is Not Desired Ex parte Wu , 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989) <MPEP 2144.04>.

With regard to claim-3, the prior art teaches splitting a process stream to more than one stream that impinge on each other, whereby the composition of different streams will be substantially the same.

#### ***Allowable Subject Matter***

Claims – 11, 13 and 15 are objected to as dependent upon a rejected base claim and would be allowable upon writing in an independent form including the limitations of the base claim and any intervening claims and upon overcoming 112 issues.

The prior art of record neither teaches nor fairly suggest a method of making a conductive material containing the specific sized particles of metal or Ni- metal particles with a ceramic particles.

#### ***Conclusion***

The examiner suggests the applicant's to come for an interview to discuss the patentability issues. The examiner suggests the applicant's to include a positive step of providing wet metal particles washed with water in the claim-2.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kallambella Vijayakumar whose telephone number is 571-272-1324. The examiner can normally be reached on 8.30-6.00 Mon-Thu, 8.30-5.00 Alt Fri.

Art Unit: 1751

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas McGinty can be reached on 571-272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KMV  
February 02, 2007.

A handwritten signature in black ink, appearing to read 'K. M. Vijayakumar', followed by a long horizontal line extending to the right.

K. M. Vijayakumar  
Patent Examiner